Atlas

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U. S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE
California Forest and Range Experiment Station
Division of Forest Insect Research

PINE ENGRAVER
SIERRA NATIONAL FOREST
AND
SOUTHERN CALIFORNIA EDISON COMPANY LANDS
JULY 1954
RECONNAISSANCE SURVEY

INTRODUCTION

On July 29, 1954, a reconnaissance survey of recently top-killed sugar pine was made on part of the holdings of the Southern California Edison Company and part of the Sierra National Forest. The area examined is located in T 10S, R 25E, Sec 25 and T 10S, R 26E, Sec 30. Included in the inspection party were William Wingo and Jim Miller of the Southern California Edison Company, Dean Schlobohm of the State Division of Forestry and George Downing of the U. S. Forest Service, California Forest and Range Experiment Station. The purpose of this inspection was: (1) to determine the cause of the current top-killing; (2) the extent and size of the problem; and (3) to decide whether or not an appraisal survey of the area would be necessary.

INSECT AND HOST SPECIES

All of the land involved has been cutover within the last couple of years and the stand now consists of: (1) thrifty appearing sugar pine and ponderosa pine seed trees; (2) a sprinkling of large white fir; (3) most of the original stand of incense cedar; and (4) the smaller unmerchantable trees typical of a mixed conifer westside stand after logging.

The damage is confined to top-killing in the pine seed trees. The following insect species and their respective host trees were encountered during the course of this inspection:

Insect	Host
Pine engravers (*Ips* spp.)	Sugar pine Ponderosa pine
Mountain pine beetle (*Dendroctonus monticolae* Hopk.)	Sugar pine Ponderosa pine

STATUS OF INFESTATION

Most of the damage is confined to a 500-acre area cutover in 1953. About 400 acres of this area, mostly within Section 30, is owned by Southern California Edison Company. The balance lies within the Sierra National Forest in the SW¼ of Section 25.

The top-killing is apparently due to pine engraver broods which developed in logging slash at the end of the 1953 season and emerged in the spring of 1954. Normally, if fresh slash were available, the emerging beetles would confine their attacks to this material. However, logging was not started until early May in 1954, and most of the beetles had already emerged and attacked the standing trees prior to the time that slash from these operations became available. The broods in the top-killed trees had matured and emerged for the most part at the time of this survey, and no new top-killed trees were observed. Some killing of branches by beetles attacking beneath the earlier topkills was noted. Recent slash from current logging probably attracted most of the beetles that emerged from the top-killed trees, since fresh slash was found to be heavily infested. Flare-ups of pine engraver damage, such as this, are ordinarily shortlived, and it is not expected that the current top-killing will continue.

A more serious threat to the destruction of the few remaining seed trees within the area is the presence of a small number of sugar pines and ponderosa pines which are currently infested by the mountain pine beetle. This beetle is quite frequently attracted to trees which have been top-killed by pine engravers. A typical progressive top-killed tree was felled and examined. It was found that the engravers had attacked and abandoned the top and that the tree was now being attacked just beneath the dead top by the mountain pine beetle.

RECOMMENDATIONS

1. Where possible, trees containing broods of the mountain pine beetle should be removed in current logging operations.

2. The Division of Forest Insect Research should make another inspection of this area in the late fall to determine the extent of mountain pine beetle activity.

Berkeley, California
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George L. Downing
Entomologist